

BYSTROVA, N.V.

MEL'NIKOV, O.A., prof., otv.red.; OBUKHOV, A.M., red.; KOLCHANSKIY, I.G., kand.fiz.-mat.nauk, red.; KUCHEROV, N.I., kand.fiz.-mat. nauk, red.; BYSTROVA, N.V., kand.fiz.-mat.nauk, red.; KALLISTRATOVA, M.A., red.; ZHUKOVA, L.N., red.; ZENDEL', M.Ye., tekhn.red.

[Transactions of the Conference on the Study of the Scintillation of Stars] Trudy Soveshchaniia po issledovaniyu mertsaniia zvezd. Moscow, Izd-vo Akad.nauk SSSR, 1959. 263 p. (MIRA 13:1)

1. Soveshchaniye po issledovaniyu mertsaniya zvezd. Moscow, 1958. 2. Chlen-korrespondent AN SSSR (for Obukhov). (Stars--Scintillation--Congresses)

S/035/60/000/007/004/018
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No, 7,
pp. 34-35, # 6152

AUTHOR: Bystrova, N.V.

TITLE: Differential Determination of ¹²Stellar Images Tremor

PERIODICAL: Tr. Soveshchaniya po issled. mertsaniya zvezd, 1958, Moscow-Lenin-
grad, AN SSSR, 1959, pp. 155-164, discuss. 181-182

TEXT: In 1957-1958 observations of star images tremor were carried out at Pulkovo, employing the Couder method (Couder A.) which excludes the vibration of an instrument. Bifurcated trails of stars were photographed in the 10-m focus of a 20-cm AZT-7 (AZT-7) telescope by means of an entrance diaphragm with two apertures carrying weakly deflecting prisms. Separation between the two components of the trail was 1.2 mm. Diameter of the diaphragm apertures was 60 mm. The speed of motion of a stellar image over the plate was $1.46 \cos \theta$ mm/sec. For 98 trails, obtained during 22 nights, were measured separations between the components of the trail in intervals of 0.2, 0.1 and 0.05. Dispersion of separations between the components was calculated, and using this value, the root-mean-square amplitude

Card 1/2

Differential Determination of Stellar Images Tremor

S/035/60/000/007/004/018
A001/A001

of tremor of one component of the trail σ_x , free of the telescope vibration. The σ_x -value varies within the range of 0".21-0".65 and on the average is equal to 0".35. This value of σ_x is somewhat less than those obtained by other observatories by an analogous method. The σ_x -values were correlated with the quality of images estimated with a 20-cm telescope without a diaphragm. The relation between σ_x and zenith distance was investigated. A starting expression for this was the following: $\sigma_x = \sigma_x^0 (\sec Z)^\alpha$. The values of α were determined from pairs of stars the times of photographing of which differed by not more than one hour. These values were found to be within the range of 0 - +0.5. The distribution of fluctuations over durations and their amplitudes for the 60-mm objective aperture was obtained from the singular trails. The question of the share of common fluctuations in double trails was analyzed. No correlation of σ_x with meteorological conditions at the ground layer and with the year season was discovered. ✓

A.N. Demidova

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

DEMIDOVA, A. N. ; BYSTROVA, N. V.

Photoelectric determination of the size of stellar image. Izv.
GAO 21 no.6:12-29 '60. (MIRA 13:9)
(Stars--Photographic measurements)

3,5150

S/035/61/000/010/006/034
A001/A101

AUTHOR: Bystrova, N.V.

TITLE: Results of determining atmospheric turbulence by the Couder-Stroemgren method at Pulkovo in 1957 - 1958

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 10, 1961, 33, abstract 10A250 ("Izv. Gl. astron. observ. v Pulkove", 1960, v. 21, no. 6, 38-51, Engl. summary)

TEXT: The author describes the set-up and results of observations at Pulkovo on turbulence of the atmosphere by the method of Couder-Stroemgren. The observations were conducted with a 20-cm meniscus telescope AZT-7 (AZT-7). Split tracks of stars were obtained on the photoplate by means of a diaphragm with two apertures and small deflecting prisms in front of them, mounted on the telescope objective end. A change in the separation between the tracks with passage of time characterizes the magnitude of tremors free of instrument oscillations. The results of measuring 98 tracks of 15 stars are compared with the visual estimate of images according to the Danjon and Couder scale, with meteorological data

Card 1/2

Results of determining atmospheric turbulence ...

S/035/61/000/010/006/034
A001/A101

and zenith distances of the stars. The tremors of stellar images at Pulkovo turned out to be a little smaller than in Sweden and Denmark. The observational results are presented in 7 tables and 4 diagrams. There are 11 references.

T. Derviz

[Abstracter's note: Complete translation]

Card 2/2

S/035/62/000/006/011/064
A001/A101

AUTHORS: Bystrova, N. V., Demidova, A. N.

TITLE: Location of atmospheric non-uniformities deforming the solar limb during clear and cloudy days

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 6, 1962, 52, abstract 6A391 ("Solnechnyye dannyye", 1961, no. 3, 73)

TEXT: Turbulent layers in the Earth's atmosphere are located, most often, at an altitude of 1 - 2 km and below, independent of the presence or absence of clouds at this altitude. They can be detected by day during observations of deformations in the Sun's limb. ✓

N. B.

[Abstracter's note: Complete translation]

Card 1/1

37325

S/169/62/000/004/033/103
D228/D302

3.5/50

AUTHORS: Bystrova, N. V., Demidova, A. N. and Lazareva, N.A.

TITLE: The jump of the air refraction index in the optical range at the peplopause level

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 4, 1962, 25, abstract 4B165 (Solnechnyye dannyye, no. 8, 1961, 77-78)

TEXT: The heights of the atmospheric layer with a refraction index, differing from that of the surrounding air, were determined from observations on the set displacement of the deformations of the sun's rim. Comparison with the data of temperature-wind sounding showed that the heights of the layer with an anomalous index of refraction correlate well with those of the boundary layer. X

/Abstracter's note: Complete translation._/

Card 1/1

S/035/62/000/005/042/098
A055/A101

AUTHORS: Bystrova, N. V., Demidova, A. N.

TITLE: The scale for estimating the quality of the image of the Sun

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 5, 1962, 47,
abstract 5A358 ("Solnechnyye dannyye", 1960 (1961), no. 11, 78-79)

TEXT: A five-point scale, calibrated by Danjon, exists for the estimate of the quality of star images. An analogous scale is suggested by the authors for the estimate of the images of the Sun. The outer appearance of the spot penumbra filaments is used as a criterion, since their width does not exceed the width of the line diffraction image in a telescope. The scale is calibrated by referring to stars; for this purpose, photographs of α Lyrae and of the Sun were taken, practically simultaneously, with the meniscus telescope of Pulkovo. A description is given of the filament aspect corresponding to each point of the scale.

R. Teplitskaya

[Abstracter's note: Complete translation]

Card 1/1

40233

S/169/62/000/007/087/149
D228/D307

9.9300

AUTHORS: Bystrova, N. V. and Demidova, A. N.

TITLE: Possibility of using solar observations in investigating long-range tropospheric ultrashort-wave propagation

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 10-11, abstract 7B57 (Solnechnyye dannyye, no. 12, 1961 (1962), 77-78)

TEXT: Attention is attracted by the fact that the slightly elevated layers, detected with sudden refractive-index changes in tropospheric USW-propagation research and in optical observations of the sun's disc, have the same heights above the ground surface (about 0.3 - 3.0 km). It is supposed that the appearance of these layers is independent of the presence or absence of visible clouds. The average thickness of the layers is 30 m. It is recommended that simultaneous observations should be made in optical and ultrashort-wave ranges to establish the identity of the detected layers. When

Card 1/2

Possibility of using ...

S/169/62/000/007/087/149
D228/D307

there is correlation between the optical and the tropospheric observations, simple optical methods permit the disclosure of these layers and the determination of the details of their fine structure (their division into a number of sublayers). The methodical peculiarities of such tests are discussed. [Abstracter's note: Complete translation.]

X

Card 2/2

3012

S/035/62/000/003/013/053

A001/A101

3,1540

AUTHORS: Bystrova. N. V., Demidova, A. N.

TITLE: The effect of atmosphere turbulence on the solar image

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 3, 1962, 53,
abstract 3A391 ("Izv. Gl. Astron. observ. v Pulkove", 1961, v. 22,
no. 4, 89-98, English summary)

TEXT: Observations, mainly visual, of various manifestations of atmospheric turbulence effect on the solar image were carried out at Pulkovo with a 20-cm meniscus telescope with a plane-parallel glass aluminum-coated filter of the same size in the 10-m equivalent focus. The results of simultaneous observations with this instrument of Δ Lyr and the Sun with exit pupils of 1 and 0.4 mm are presented. A certain form of penumbra filaments of sunspots corresponds, according to Danjon, to every estimate of the quality of star image. The magnitudes of star tremor and shift of the solar surface section adjacent to the edge with a $\sim 9'$ -chord were estimated from the ocular cross lines and proved to be approximately equal. A conclusion was drawn that the upper boundary of location of corresponding non-homogeneities is at an altitude of ~ 100 m.

Card 1/2

The effect of atmosphere turbulence ...

S/035/62/000/003/013/053
A001/A101

Position angles of shift direction of non-homogeneities over the solar edge are determined by means of a guide ($D = 50$ mm) in projection on the screen, the time of passage is estimated, and the azimuths of this displacement are calculated. Using velocities and directions of the wind, the time is calculated which non-homogeneities would take for the transit across the Sun's disk in a horizontal layer at various altitudes. A comparison of the observed azimuth and time with those calculated from meteorological data makes it possible to determine the altitudes of non-homogeneities. There are 15 references.

From authors' summary

[Abstracter's note: Complete translation]

Card 2/2

RYZHKOV, N.F.; YEGOROVA, T.M.; GOSACHINSKIY, I.V.; BYSTROVA, N.V.

Attempt to observe radio emission of Seki-Lines' comet (1962e).

Astron. tsir. no.231:6-8 N '62.

(MIRA 16:4)

1. Glavnaya astronomicheskaya observatoriya AN SSSR.

(Comets—1962)

(Radio astronomy)

DEMIDOVA, A.N.; BYSTROVA, N.V.

Height of atmospheric layers distorting the moon's limb. Astron.tsir.
no.231:26 N '62. (MIRA 164)

1. Glavnaya astronomicheskaya observatoriya AN SSSR.
(Moon—Observations) (Atmosphere, Upper)

DEMIDOVA, A.N.; BYSTROVA, N.V.

Star scintillation and limb deformations of extended celestial bodies.
Astron.tsir. no.232:12-13 D '62. (MIRA 16:4)

1. Glavnaya astronomicheskaya observatoriya AN SSSR.
(Stars--Scintillation) (Moon--Observations)

BYSTROVA, N.V.; GOSACHINSKIY, I.V.; YEGOROVA, T.M.; RYZHKOV, N.F.

Neutral hydrogen in the direction of nebula NGC 6618 (Omega). Astron.
tsir. no. 244:1-4 My '63. (MIRA 17:2)

1. Glavnaya astronomicheskaya observatoriya AN SSSR.

L 8622-65 FBD/EWT(1)/EWG(v)/EEC-4/EEC(t) Pe-5/Pae-2/P1-4 AFETR/ESD(gs)/
ESD(dp)/AFWL/SSB/ASD(a)-5/ESD/ESD(t)/RAEM(t) GW/WS
ACCESSION Nr: AR4038680 8/0269/64/000/003/0044/0044

SOURCE: Rel. zh. Astron. Otd. vyep., Abs. 3.61.354

AUTHOR: Bystrava, N. V.; Gosachinskiy, I. V.; Yegorova, T. M.; Ryashkov, N. P.

TITLE: Fine structure of the discrete source W43 on 21-cm waves

CITED SOURCE: Astron. tsirkulyar, no. 245(Maya 13), 1983, 3-4

TOPIC TAGS: astronomy, radio astronomy, discrete radio source, neutral hydrogen, radio telescope

TRANSLATION: The high resolving power of the Pulkovo radio telescope ($7' \times 1''.5$) made it possible to directly distinguish the nucleus of the source W43, having a half-width of $5''.5$ and emitting 25% of the total flux from the source. Observations in the line of neutral hydrogen gave an estimate of distance to the source of > 5 kpc. 1. G.

DATE ACQ: 17Apr84

SUB CODE: AA

ENCL: 00

Card 1/1

BYSTROVA, N.V.; GOSACHINSKIY, I.V.; YEGOROVA, T.M.; RYZHKOV, N.F.

High-resolution observations of radiosources W 44 and W 28 on
the 21 cm. wavelength. Astron.tsir. no.269:1-3 N '63.

(MIRA 17:4)

1. Glavnaya astronomicheskaya observatoriya AN SSSR, Pulkovo.

L 26479-65 FBI/EWT(1)/EWG(v)/EEC(t)/EEG-4 Pe-5/Pae-2/Pi-4 GW/WS

ACCESSION NR: AR5004871

S/0058/64/000/011/H059/H059

SOURCE: Ref. zh. Fizika, Abs. 11Zh367

AUTHORS: Eystrova, N. V.; Gosachinskiy, I. V.; Yegorova, T. M.; Ryzhkov, N. F.

TITLE: Observation of radio sources W44 and W48 with high angular resolution at 21 cm wavelength

CITED SOURCE: Astron. tsirkulyar, No. 269, 20 noyabrya, 1963, 1-3

TOPIC TAGS: radio astronomy, [✓]supernova explosion, radio source, cosmic radio emission

TRANSLATION: Observations were made of two proposed remnants of supernova explosions with the aid of an antenna having an angle resolution of 7' in one coordinate. It was found that the model in which the sources have the form of spherically-symmetrical envelopes does not agree with the observations. The distance to these sources was estimated from the absorption in the radio line. Two new sources were observed near W44. I. G.

SUB CODE: AA, EX

ENCL: 00

Card 1/1

ACCESSION NR: AT4012205

S/2797/63/023/002/0115/0117

AUTHOR: Demidova, A. N.; By*strova, N. V.

TITLE: Observation of the lunar limb and the motion of shadow band patterns

SOURCE: Pulkovo. Astron. observ. Izvestiya, v. 23, no. 2(173), 1963, 115-117

TOPIC TAGS: astronomy, moon, lunar limb, moon shadow, moon shadow band, moon libration

ABSTRACT: It is possible to calculate the heights of various layers of the atmosphere from the deformation of the edge of the sun. This method was used in 1961-1962 at the Pulkovo Observatory to calculate the heights of various layers at night through observation of the motion of shadows of the edge of the moon. For this purpose a telescope with a 110 mm disk, $F=1300$ mm was used, which covered the entire face of the moon. Observations were made of the movement of shadows on the deformed moon limb. The observed angle of the shadows was compared with a detailed map of the moon axel. The maximum change, because of the libration, was approximately 5° . By knowing the speed and direction of the motion of the atmosphere at various heights, it was possible to calculate the passage of the moon edge for each layer. From the difference between the calculated and observed value of the azimuth, the heights of the atmosphere layers were found. Orig. art. has: 2 figures. Card 1/2

ACCESSION NR: AT4012205

ASSOCIATION: Astronomicheskaya observatoriya, Pulkovo (Astronomical Observatory)

SUBMITTED: 00

DATE ACQ: 27Feb64

ENCL: 00

SUB CODE: AA

NO REF SOV: 002

OTHER: 003

Card 2/2

S/033/63/040/001/003/016
E032/E514

AUTHORS: Ryzhkova, N.F., Yegorova, T.M., Gosachinskiy, I.V.
and Bystrova, N.V.

TITLE: Absorption of radiation due to the Sag-A source
by neutral interstellar hydrogen

PERIODICAL: Astronomicheskiy zhurnal, v.40, no.1, 1963, 17-22

TEXT: The large Pulkovo radiotelescope was used in 1961 to record the continuous spectrum of Sag-A at 21 cm. The beamwidth at half-power points of this telescope was 0.14° and 5° in the horizontal and vertical planes, respectively. The bandwidth of the receiver was 1.5 Mc/s. The average transit curves for Sag-A exhibit the structural details noted by Drake (Nat. Rad. Astron. Obs., USA, Ann.report; 2, 1959). A receiver with a bandwidth of 80 kc/s was used to investigate the absorption of Sag-A emission by neutral hydrogen in the neighbourhood of the sun and in the expanding spiral arm at 3 kpc from the centre of the Galaxy ($v = -53$ km/s). All the components of the source undergo roughly the same absorption by hydrogen in the vicinity of the sun. The radiation from the south-western part of Drake's ring

Card 1/2

Absorption of radiation due ...

S/033/63/040/001/003/016
E032/E514

($\alpha_{1950} = 17^{\text{h}}41^{\text{m}}2^{\text{sec}}$, $\delta_{1950} = -29^{\circ}30'$) is not apparently subject to absorption in the spiral arm. There are 3 figures. ✓

ASSOCIATION: Glavnaya astronomicheskaya observatoriya Akademii nauk SSSR
(Main Astronomical Observatory of the Academy of Sciences USSR)

SUBMITTED: February 26, 1962

Card 2/2

RYZHKOV, N.F.; YEGOROVA, T.M.; GOSACHINSKIY, I.V.; BYSTROVA, N.V.

Observations of the galactic center in the continuous spectrum
at 1420 mc/s frequency and in the ~~neutral~~ hydrogen line. Izv. GAO
23 no.3:3-8 '64.

Calibration observations of some radio emission sources at
1420 mc/s frequency. Ibid.:25-30

(MIRA 17:11)

BYSTROVA, N.V.; GOSACHINSKIY, I.V.; YEGOROVA, T.M.; RYZHENOV, E.F.

Neutral hydrogen in the region of Omega nebula NGC 6618. Izv. SAG
23 no.5:111-115 '64.

Fine structure of radio sources W43 and W51 from observations
with high angular resolving power. Ibid.:116-120 '64.
(MIRA 17:11)

BYSTROVA, N.V.; GOSACHINSKIY, I.V.; YEGOROVA, T.M.; RYZHKOV, N.F.

Right ascensions and dimensions of, and fluxes from, some
discrete radio sources observed at a wavelength of 21 cm.
Izv. GAO 24 no.1:73-76 '64. (MIRA 18:3)

L 15307-66 EWT(1) GS/GW
ACC NR: AT6003706

SOURCE CODE: UR/0000/65/000/000/0030/0031

AUTHORS: Bystrova, N. V.; Demidova, A. N.

ORG: none

49

47

B+1

TITLE: The effects of atmospheric disturbances on an image of extended celestial sources

SOURCE: AN SSSR, Astronomicheskiy sovet, Opticheskaya nestabil'nost' zemnoy atmosfery (Optical instability of the earth's atmosphere). Moscow, Izd-vo Nauka, 1965, 30-31

TOPIC TAGS: atmospheric disturbance, atmospheric stratification, scintillation, *atmospheric refraction*

ABSTRACT: This article lists some conclusions drawn from previously published discussions by the authors (Soln. darme, No. 11, 1960; Izv. GAO, No. 169, 89, 1961) concerning a method for determining the height of atmospheric layers causing disturbance of images of extended celestial sources. Daytime observations show that atmospheric layers deforming the image of the sun's border occur at heights of 0.3 to 2.5 km, the average being 1.5 km. Nighttime observations of the moon's edge show the disturbing layer to occur at heights of 1.5 to 9 km, the average being 4.5 km. It is found that atmospheric inhomogeneities, as determined by observing the edge of the sun, occur at the same heights as elevated air layers with abrupt changes in refractive indices, layers that have a very definite effect on long-range tropospheric

Card 1/2

L 15307-66

ACC NR: AT6003706

2
propagation of ultra-short radio waves. Other common features are the existence of disturbing layers independent of the presence or absence of visible clouds and the possible relations to inversion layers. The authors conclude that scintillation of stars is caused by the same atmospheric layer that causes directed displacement of distortions on the image of the moon's border.

SUB CODE: 04/

SUBM DATE: 15 May 65/

ORIG REF: 006

Astronomy 12, 55

Card 2/2 mc

L 46879-66 EWT(1) GW/WS-2

ACC NR: AR6016285

SOURCE CODE: UR/0269/66/000/001/0043/0043

AUTHORS: Bystrova, N. V.; Gosachinskiy, I. V.; Yegorova, T. M.; Ryzhkov, N. F. 37 B

TITLE: Radio observations of three postulated remainders of type II supernova outbursts ✓

SOURCE: Ref. zh. Astronomiya, Abs. 1.51.353

REF SOURCE: Izv. Gl. astron. observ. v Pulkove, v. 24, no. 2, 1965, 202-206

TOPIC TAGS: supernova, radio telescope, cosmic radio source, centimeter wave, thin shell structure

ABSTRACT: The results of observations with the large Pulkovo radio telescope of prolonged nonthermal radio sources W 44, W 28, and W 14 are given. The dimensions of the directivity patterns at the declination of the sources are $7' \times 1^{\circ}.5$; $7' \times 4^{\circ}.5$; and $7' \times 0^{\circ}.8$, respectively, for a 21-cm wave. The luminosity distribution for the sources in a continuous spectrum does not agree with a three-dimensional model in the form of a spherically symmetric thin shell. Transmission curves at certain frequencies of the profile of the radio line of neutral hydrogen are given. An estimate of the possible upper limit of the distance to the sources is made. Bibliography of 19 citations. Resume [Translation of abstract]

SUB CODE: 03

Card 1/1 *plk*

UDC: 523.164.4

ACC NR: AR6035289

SOURCE CODE: UR/0269/66/000/009/0044/0044

AUTHOR: Bystrova, N. V.; Gosachinskiy, I. V.; Yegorova, T. M.; Ryzhkov, N. F.

TITLE: Attempt to observe the hydrogen radio-frequency spectral line at the 1424.736 mc frequency in the Horseshoe and Orion Ori nebulae

SOURCE: Ref. zh. Astronomiya, Abs. 9.51.380

REF SOURCE: Astron. tsirkulyar, no. 355, fevr. 11, 1966, 2-3

TOPIC TAGS: hydrogen line, nebula, ~~Horseshoe nebula~~, ~~Orion nebula~~ *radio emission, cosmic radio emission*

ABSTRACT: Investigations of excited hydrogen radio-frequency spectral lines have been continuing at the Pulkovo Observatory. The RMS of measurement error of ± 0.25 km/sec is found to be lower than that of the errors determined by the profile of the line. Omega and Orion nebulae were observed in October and November 1965. Profiles were obtained of the absorption lines in these nebulae, as well as of the emission line detected in the direction of the galactic center. The ratio of maximum intensity in the line to the continuous spectrum intensity, line widths at the half-power points, the nebula velocity determined on the basis of

Card 1/2

UDC: 523.164.4

ACC NR: AR6035289

the maximum and of the center of gravity of the line, were calculated for Omega and Orion. The mean kinetic temperature for Omega and Orion were also determined. The results are somewhat different from the data of B. Hoglund and P. G. Mezger for the 5009 mc. The radiation line is narrow, $\Delta\nu = (270 \pm 70)$ kc, and is formed in a small compact region moving at a velocity of $-(10 \pm 1)$ km/sec.
[Translation of abstract]

SUB CODE: 03/

[DW]

Card 2/2

BYSTROVA, O.M.

BYSTROV, A.A.; BYSTROVA, O.M.; SAPREYEVA, K.A., otvetstvennyy redaktor;
MADEINSKAYA, A.A., tekhnicheskiiy redaktor

[The operation of mine piston compressor installations] Eksploatatsiya rudnichnykh porshnevnykh kompressornykh ustanovok. Moskva, Ugletekhizdat, 1954. 462 p. [Microfilm] (MLRA 8:4)
(Air compressors) (Mining machinery)

AUTHORS: Bystrova, R. I., Zinov'yev, Yu. M., SOV/79-29-6-68/72
Soborovskiy, L. Z.

TITLE: Synthesis of Organo-phosphoric Compounds From Hydrocarbons and Their Derivatives (Sintez fosfororganicheskikh soyedineniy iz uglevodorodov i ikh proizvodnykh). XI. Oxidizing Chlorophosphination of Nitriles (XI. Okislitel'noye khlorfosfinirovaniye nitrilov)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 6, pp 2088-2092 (USSR)

ABSTRACT: In the reaction of the oxidizing chlorophosphination of hydrocarbons and their derivatives the C-P-linkage results; at the same time acid chlorides of corresponding alkane-phosphinic acids are formed. The reaction was carried out by halogen substituted paraffin hydrocarbons and by halogen olefins. The oxidizing chlorophosphination of alkoxy substituted hydrocarbons of ethers (Refs 1,2) is also possible. In the present paper the authors analyzed the reaction of phosphorus trichloride and oxygen with cyano substituted paraffins (nitriles of carboxylic acids). It was shown, that the oxidizing chlorophosphination of nitriles may proceed in two directions. The acid nitriles with 4 and more C-atoms per molecule form acid

Card 1/3

Synthesis of Organo-phosphoric Compounds From Hydro- SOV/79-29-6-68/72
carbons and Their Derivatives. XI. Oxidizing Chlorophosphination of Nitriles

chlorides of the cyan alkane phosphinic acids $C_nH_{2n}(CN)P(O)Cl_2$, i.e. of compounds containing a C-P-linkage. The first links of the nitrile series (acetonitrile, propionitrile), as well as benzonitrile, form in the reaction with PCl_3 and O_2 , compounds which contain the P-N-linkage, i.e. derivatives of acid chlorides of the imido-N-phosphoric acids, which correspond to the formula $RCCl=NP(O)Cl_2$. Acid chlorides of the cyanopropane and the cyanobutane-phosphinic acids have been synthesized. Two acid chlorides of the imido-N-phosphoric acid have been obtained whose structure corresponds probably to the formulas $C_2H_5CCl=NP(O)Cl_2$ and $C_6H_5CCl=NP(O)Cl_2$. The acid chloride of the imido-N-phosphoric acid, which is formed from acetonitrile, could not be separated in pure state. For the nitriles of carboxylic acids, which contain more than three C-atoms, the oxidizing chlorophosphination is carried out according to scheme (1), and for the acetonitrile, propionitrile, and benzonitrile according to scheme (2), and leads to the P-N-linkage. The spectroscopic analyses have been carried out by

Card 2/3

Synthesis of Organo-phosphoric Compounds From Hydro- SOV/79-29-6-68/72
carbons and Their Derivatives. XI. Oxidizing Chlorophosphination of Nitriles

N. P. Rodionova, S. S. Dubov, and V. V. Fedotova. There are
1 table and 5 Soviet references.

SUBMITTED: March 3, 1958

Card 3/3

KARPOV, O.N.; BYSTROVA, R.M.

Iodochlorometric determination of styrene and indene. Zhur.
anal. khim. 18 no.11:1390-1391 N '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv, Donetskii filial.

BYSTROVA, T. A.

BYSTROVA, T. A. -- "Pathomorphological Changes in Certain Portions of the Nervous system in Cases of Hoof-and-Mouth Disease of Young Pigs." Min Higher Education USSR. Saratov State Zootechnical-Veterinary Institute. Saratov, 1955. (Dissertation for the Degree of Candidate in Veterinary Sciences.)

So; Knizhaya Letopis' No 3, 1956

EYSTROVA, T. A.

Dissertation: "The Investigation of a New Type of Regenerator-recuperator for non-stationary Thermal Flow." Cand Tech Sci, Moscow Order of the Labor Red Banner Higher Technical School imeni N. E. Bauman, 28 Jun 54. (Voennoyazhskaya Moskva, Moscow, 18 Jun 54)

SO: 002 518, 23 Dec 1954

Bystrova, T. A.

Abst Journal: Referat Zhur - Mekhanika, No 2, 1957, 2009

Author: Bystrova, T. A.

Institution: None

Title: Investigation of a Regenerator-Recuperator in Non-Stationary Heat Stream

Original

Periodical: Sb. statey Mosk. vyssh. tekhn. uch-shcha, 1955, 53, 21-46

Abstract: An experimental investigation of the hydraulic resistance and of details of heat exchange were made under varying conditions in an apparatus, for which the most effective fitting of copper wire was selected beforehand.

Card 1/1

BYSTROVA, T.A.

AEROV, M.E.; BYSTROVA, T.A.

~~Grid plates as compared with bubble plates and fractionating column~~
packings. Khim. nauka i prom. 2 no.1:97-101 '57. (MLRA 10:4)
(Distillation apparatus)

AEROV, M.E.; BYSTROVA, T.A.; DAROVSKIKH, Ye.P.; SUM-SHIK, L.Ye.

Tubular plates; hydraulic resistance, effectiveness, and heat transfer
Khim.prom. no.1:62-66 Ja-F '60. (MIRA 13:7)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
organicheskikh produktov.

(Plate towers)

(Heat--Transmission)

KLIMENKO, Aleksandr Petrovich; BYSTROVA, T.A., red.; LUK'YANOV, P.I.,
red.; YEFREMOVA, T.D., věd. red.; BASHMAKOV, G.M., tekhn. red.

[Production of ethylene from petroleum and gases] Poluchenie etile-
na iz nefti i gaza. Moskva, Gostoptekhizdat, 1962. 234 p.

(MIRA 15:7)

(Ethylene) (Petroleum--Refining)

SUM-SHIK, L.Ye.; AEROV, M.E.; BYSTROVA, T.A.

Hydrodynamic calculation of columns with nonoverflowing plates.
Khim.prom. no.7:530-532 J1 '62. (MIRA 15:9)
(Plate towers)

SUM-SHIK, L.Ye.; AEROV, M.E.; BYSTROVA, T.A.

Entrainment and hydraulic calculation of columns with nonover-
flowing plates. Khim.prom. no.1:63-68 Ja '63. (MIRA 16:3)
(Plate towers)

S/066/63/000/001/002/002

AUTHOR: Aerov, M. E., Doctor of Technical Sciences, Bystrova, T. A., Candidate of Technical Sciences, and Zelentsova, N. I., Engineer; Klimenko, A. P., Candidate of Technical Sciences, Cheglikov, A. G., Candidate of Technical Sciences, and Kostyuk, V. I., Engineer

TITLE: An experimental study of contact heat exchange

PERIODICAL: Kholodil'naya tekhnika, ¹⁴⁰no. 1, 1963, 37-40

TEXT: To study contact heat exchange, the authors investigated packed evaporators and condensers and developed apparatus which used these devices. The systems studied were: an aqueous solution of calcium chloride - boiling propane and an aqueous solution of calcium chloride-boiling butane. The basic part of the apparatus was a contact evaporator which was a scrubber filled with ceramic packing of 17 x 17 x 4 mm Raschig rings. The temperature difference in the apparatus was 1-3°. Values of the heat transfer coefficient, 3,000 to 10,000 kcal/m³ per hour, obtained here in the upper zone of the evaporator were lower than those obtained in industrial foaming apparatus, due to lower steam velocities.

Contact heat exchange in condensers was also proposed to improve effectiveness of refrigeration equipment. This scheme permitted elimination of tube heat exchangers

Card 1 of 2

An experimental study ...

S/066/63/000/001/002/002

and replacement of ammonia by propane at about 1/9 the cost. Compressed propane was delivered to the lower part of a contact condenser and forced upward against a flow of cooling water. The condensate and water passed into the lower part of the condenser where the phases were separated. The use of propane increased the cooling capacity. The equilibrium concentration of propane in water under ordinary working conditions (pressure of 11 to 12 atm, temperature of 30°) was 0.5×10^{-3} kg per kg of water. Losses of propane from water in the aqueous condensate were about 5×10^{-3} kg per kg of circulating propane. Equilibrium concentration of water in liquid propane was 0.14×10^{-3} kg/kg. Two figures and one table were given. English language references: L. Garwin and B. D. Smith, Chem. Engng Progress, 1953, no. 11; T. Woodward, Ibid., 1961, no. 1; G. Karnofsky, Ibid., 1961, no. 1; W. G. Knox, T. Hess, Ibid., 1961, no. 2; W. F. Hoot, Petrol. Refiner, vol. 30, no. 5, 1961, D. S. Davis, Chem. and Process Engng., 1960, vol. 41, no. 2.

ASSOCIATIONS: Nauchno-issledovatel'skiy institut sinteticheskikh spiritov i organicheskikh produktov (Scientific Research Institute for Synthetic Alcohols and Organic Products) (Aerov, M. E.; Bystrova, T. A.; Zelentsova, N. I.); Institut ispol'zovaniya gaza AN UkrSSR (Institute for the Utilization of Gas, AS, UkrSSR) (Cheglikov, A. G.; Klimenko, A. P.; Kostyuk, V. I.)

Card 2 of 2

AEROV, M.E.; BEREZHNYAYA, K.P.; BYSTROVA, T.A.; BERGO, B.G.;

Hydraulic and mass transfer in the intertubular space of a
heat-exchange column. Khim.prom. no.9:703-705 S '63. (MIRA 16:12)

BYSTROVA, T. A., Cand Med Sci -- (diss) "On the Action of Small Concentrations of Sulfuric Gas upon the Organism." Mos, 1957. 11 pp (1st Mos Order of Lenin Med Inst im I. M. Sechenov), 200 copies (KL, 51-57, 94)

- 31 -

RUSSIAN, T.A.

"Some Aspects of the Action of Sulfur Dioxide Determined by Using the Method of Tagged Atoms," by T. A. Bystrova, Chair of Public Hygiene, First Moscow Order of Lenin Medical Institute imeni I. M. Sechenov, Gigiyena i Sanitariya, Vol 22, No 5, May 57, pp 30-37

Tagged atoms of sulfurous anhydride obtained by burning sulfur were used to determine the distribution and dynamics of retention of sulfur dioxide in the organism and the excretion of the gas from the organism. The experiments were conducted on rats placed in a special chamber containing radioactive sulfur dioxide $S^{35}O_2$. The results of the experiments were as follows: (1) on the inhalation of the radioactive sulfur dioxide, the sulfur products of its transformation were rapidly carried by the blood to all parts of the body and retained in the organs for considerable periods of time, up to 11 days, the length of the time depending on the concentration of the gas in the air; (2) the distribution of the gas in the organs was uneven, with the greatest concentration taking place in the lungs; (3) repeated inhalations of the gas caused the sulfur-containing products to accumulate in the blood and organs; and (4) the fact of the accumulation of sulfur products in the organism led to the assumption that the daily inhalation of the gas even in small quantities may cause the development of pathological phenomena in the organism. (U)

Sum in 1967

EYSTROVA, T.A.

Materials on the effect of sulfur dioxide on the body. Trudy
1-go MMI 5:85-99 '59. (MIRA 13:8)

1. Iz kafedry obshchey gigiyeny (zav. - prof. A.I. Pakhomychyev)
1-go Moskovskogo ordena. Lenina meditsinskogo instituta im.
I.M. Sechenova.

(SULFUR DIOXIDE--TOXICOLOGY)

S/019/60/000/019/026/102
A152/A029

AUTHORS: Aerov, I.E.; Bystrova, T.A.; Zelentsova, N.I.; Klimenko, A.P.;
Mogil'nyy, V.I.; Platonov, V.M.; Fisun, V.M.; Cheglikov, A.G.

TITLE: A Method of Separating Hydrocarbon Gases

PERIODICAL: Byulleten' izobreteniy, 1960, No. 19, p. 25

TEXT: Class 17g, 201. No. 132246 (650987/23 of January 16, 1960). This method of separating hydrocarbon gases by low-temperature rectification is distinguished by the following special feature: condensation of the gases out of the mixture is carried out by bringing them into contact with a low-temperature cold-conductor insoluble in them. ✓

Card 1/1

BORODULINA, N.A., prof.; BYSTROVA, T.A., assistant

Effect of the feeding of urea on morphologic changes in the
organs of sheep and calves. Trudy SZVI 11:231-237 '62.

(MIRA 16:7)

(Urea as feed)

(Sheep—Feeding and feeds)

(Calves—Feeding and feeds)

BYSTROVA, T.D.

~~ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED~~

Regimen in pediatric hospitals and role of nurse according to Pavlovian theory. Med. sestra, Moskva No.1:24-26 Jan 52. (CJML 21:4)

1. Senior Nurse. 2. Of Smol'ninskiy Rayon Children's Hospital (Head Physician--A.I. Stepanova; Scientific Supervisor--L.S. Kucher), Lenin-grad.

BYSTROVA, T.G. [Bystrova, T.H.]; FEDOROV, F.I. [Fiodarau, F.I.]

Elastic properties of cubic crystals. Vestsi AN BSSR.
Ser.fiz.-mat.nav. no.1:35-48 '65. (MIRA 19:1)

L 38513-66 EWT(d)/EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/WW

ACC NR: AP6018764

SOURCE CODE: UR/0070/66/011/003/0368/0374

AUTHOR: Fedorov, F. I.; Bystrova, T. G.

ORG: Institute of Physics, AN BSSR (Institut fiziki AN BSSR)

TITLE: Debye temperatures for cubic crystals

SOURCE: Kristallografiya, v. 11, no. 3, 1966, 368-374

TOPIC TAGS: Debye temperature, cubic crystal

ABSTRACT: Using generalized formulas, the article presents calculations of the Debye temperature θ for 82 cubic crystals whose elastic constants are known. These results are compared with experimental data and with the results of calculations by other authors, with good agreement. In general, the characteristic Debye temperatures close to absolute zero depend only on the elastic constants of the crystals and can be written in the form:

$$\theta = C(V_a)^{-1/3}, \quad (1)$$

where C is expressed in terms of the Boltzmann and Planck elastic constants

$$C = \frac{h}{k} (18\pi^2)^{1/3} = 135,78, \quad (2)$$

Card 1/2

UDC: 548.0

L 38513-66

ACC NR: AP6018764

The method of calculation used starts with the approximate expression

$$I_1 = a^{-1/2} \left\{ 2 + r_a r_b \left[0,1 r_1 (1 - 0,06 r_a) + \frac{57,2 - 8,4 r_a + 0,48 r_b}{1001} \right] \right\} + \\ + c^{-1/2} \left\{ 1 - \frac{r_b r_c}{1001} [57,2 (1 - r_2) + 0,5 r_b - r_c (7,2 - 6,7 r_2)] \right\}. \quad (3)$$

If we limit ourselves to terms not higher than the 4th order with respect to the elastic anisotropy, we get

$$I_2 = I_1 + \frac{r_b^4}{1001} [a^{-1/2} (0,17 r_1 + 0,26 r_1^2 + 4,18 r_1^3 + 5,72 r_1^4) - \\ - c^{-1/2} (0,17 r_2 + 0,7 r_2^2 + 5,86 r_2^3 - 5,28 r_2^4)]. \quad (4)$$

Here $r_a = c_3/a$; $r_b = c_3/b$; $r_c = c_3/c$; $r_1 = b/a$; $r_2 = b/c$; $a = c_1 + 0,2 c_3$; $b = c_2 + 0,4 c_3$; $c = a + b$; c_1 , c_2 , and c_3 are expressed in terms of the usual elastic constants of the cubic crystals, and the density in the following manner:

$$c_1 = \frac{c_{44}}{\rho}, \quad c_2 = \frac{c_{12} + c_{44}}{\rho}, \quad c_3 = \frac{c_{11} - c_{12} - 2c_{44}}{\rho}. \quad (5)$$

Results of calculation with Equation (3) and (4) are shown in extensive tables. Orig. art. has: 5 formulas and 2 tables.

SUB CODE: 20/ SUBM DATE: 11Apr65/ ORIG REF: 012/ CTH REF: 037

Card 2/2 *106*

BYSTROVA, V.A., kand.med.nauk

Study of the incidence of disease with temporary disability among
machinetractor station workers. Zdrav.Rus.Fed. 1 no.7:16-21 J1 '57.
(MIRA 12:12)

1. Iz instituta organizatsii zdavookhraneniya i istorii meditsiny
imeni N.A. Semashko (dir. Ye.D. Ashurkov) Ministerstva zdavookhra-
neniya SSSR.

(MACHINE-TRACTOR STATIONS--HYGIENIC ASPECTS)

DYSTEROVA, V. A.

"Experience of the study of morbidity with temporary loss of work capacity of the machine-and-tractor service stations and folkhous workers."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

BYSTROVA, V.A., kand.meditsinskikh nauk

Stillbirth and infant mortality in the first week of life; perinatal mortality. Sov. zdrav. 19 no.6:78-81 '60. (MIRA 13:9)

1. Iz Instituta organizatsii zdravookhraneniya i istorii meditsiny im. N.A. Semashko (dir. Ye.D. Ashurkov).
(INFANTS--MORTALITY) (STILLBIRTH)

BYSTROVA, V.A.; RUSAKOVA, V.P.

Degree of accuracy in medical registration of the causes of death. Zdrav. Res. Feder. 7 no.9:33-37 S '63. (MIRA 16:10)

1. Iz otdela sanitarnoy statistiki (rukovoditel' Ye.A. Sadvokasova)
Instituta organizatsii zdravookhraneniya i istorii meditsiny
N.A. Semashko (dir. P.I. Kal'yu).

✓ -

BYSTROVA, V.V.

USSR/General Problems of Pathology - Pathophysiology
of the Infectious Process.

T-4

Abs Jour : Ref Zhur - Biol., No 1, 1958, 3042

Author : Bystrova, V.V.

Inst : ~~USSR Academy of Sciences~~

Title : The Effects of Hindrance of the Central Nervous System
Activity on the Development of Pneumonia Foci in Experi-
mental Sepsis.

Orig Pub : V sb.: Tr. Vses. konferentsii Patologoanatomov. M.,
Medgiz, 1956, 173-176

Abstract : Sepsis in rabbits was caused by an intravenous injection
of 1 billion per 1 kg of body weight of Group III
Pneumococci. Administration of 2 g/kg of bromine resul-
ted in a more rapid and severe development of the infec-
tious process.

Card 1/1

BYSTROVA, V.V.

GIRGOLAV, S.S., professor; BLINOV, N.I., professor; BALAKINA, V.S., professor; KHEML'NITSKIY, O.K., kandidat meditsinskikh nauk; BRIGENNIK, Ye.V., kandidat meditsinskikh nauk; BOYKO, B.K., kandidat meditsinskikh nauk; ~~BYSTROVA, V.V.~~, kandidat meditsinskikh nauk; VIASOVA, Z.A., kandidat meditsinskikh nauk; ANTIPIINA, A.N., nauchnyy sotrudnik

Petr Vasil'evich Sipovskii. Arkh.pat. 18 no.8:131-132 '56. (MLRA 10:2)

1. Deystvitel'nyy chlen ANU SSSR (for Girgolav). 2. Direktor Instituta usovershenstvovaniya vrachev imeni S.M.Kirova (for Blinov).
 3. Direktor Nauchno-issledovatel'skogo instituta travmatologii i ortopedii (for Balakina)
- (SIPOVSKII, PETR VASIL'EVICH)

ZAYTSEVA, G.I., kandidat meditsinskikh nauk; BYSTROVA, V.V.; NALYUBINA, G.A.

Visceral candidomycosis in children. *Pediatrica* 39 no.3:56-62
My-Je '56. (MLRA 9:9)

1. Iz filiala kafedry pediatrii (zav. - dotsent G.I.Zaytsev) i
kafedry patologicheskoy anatomii (zav. - prof. P.V.Sipovskiy)
Leningradskogo instituta usovershenstvovaniya vrachey imeni S.M.
Kirova (dir. - prof. N.I.Blinov)

(MONILLIASIS, IN inf. and child etiol. and pathogen.
antibiotics, in child.)

(ANTIBIOTICS, inj. eff.
monilliasis in child.)

BYSTROVA, V.V.

Effect of streptomycin treatment on the phagocytic activity of
connective tissue histiocytes. Eksp. i klin. issl. po antibiot.
1:241-245 '58. (MIRA 15:5)
(STREPTOMYCIN) (PHAGOCYTOSIS)

BYSTROVA, V.V.

Morphological characteristics of the toxic action of chlortetracycline
(biomycin). Eksp. 1 klin. po antibiot. 1:281-290 '58. (MIRA 15:5)
(AUREOMYCIN--TOXICOLOGY).

BYSTROVA, V.V., SOKOLOV, S.S.

Morphological characteristics of wound healing processes in radiation sickness. Med.rad. 3 no.5:71-77 S-0 '58 (MIRA 11:12)

1. Iz kafedry patologicheskoy anatomii (zav. - prof. P.V. Sipovskiy)
i 3-y khirurgicheskoy kliniki (zav. - prof. M.I. Blinov) Leningradskogo
instituta dlya usovershenstvovaniya vrachey imeni S.M. Kirova.

(ROENTGEN RAYS, eff.

on exper. wds. healing (Rus))

(WOUNDS AND INJURIES, exper.

eff. of x-rays on healing (Rus))

LOGINOV, A.V.; BYSTROVA, V.V.; VOLYNSKAYA, S.L.; DUMOVA, A.M.; OVCHAROV, V.G.

Pharmacological properties of antibiotic 26/1. Eksp. i klin. issl.
po antibiot. 2:268-273 '60. (MIRA 15:5)
(ANTIBIOTICS)

BYSTROVA, V.V., kand.med.nauk; TIMOFEYEVA, G.A., kand.med.nauk

Colimycin in the treatment of colienteritis in children.

Vop. okh. mat. i det. 5 no. 2:28-33 Mr-Apr '60. (MIRA 13:10)

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta antibiotikov
(direktor - A.V. Loginov) i kafedry infektsionnykh zabolevaniy u
detey (ispolnyayushchiy obyazannosti zaveduyushchego - dotsent
A.T. Kuz'micheva) Gosudarstvennogo pediatricheskogo meditsinskogo
instituta.

(INTESTINES--DISEASES) (ANTIBIOTICS)

BYSTROVA, V.V.; DOBROMYSLOV, V.V.; YELINOV, N.P.; ZAIKINA, N.A.; KONDRAT'YEVA,
A.A.; MEDVEDKOVA, A.A.; SILUYANOVA, N.A.; PROLOVA, M.A.

Study of the antifungal properties and chemotherapeutic activity of
antibiotic 26/1. Eksp. i klin. issl. po antibiot. 2:289-295 '60.

(MIRA 15:5)

(ANTIBIOTICS)

ANISIMOVA, N.A.; ESTROVA, V.V. (Leningrad)

Adenomatosis of the lungs with malignant degeneration. Arkh.pat.
23 no.5:74-76 '61. (MIRA 14:6)

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta anti-
biotikov (dir. - dotsent A.V. Loginov).
(LUNGS--CANCER)

YELINOV, N.P.; BYSTROVA, V.V.

Cause of possible death of rabbits in immunization with yeast organisms. Zhur.mikrobiol.epid.i immun. 32 no.1:68-73 Ja '61.
(MIRA 14:6)

1. Iz Leningradskogo nauchnoOissledovatel'skogo instituta antibiotikov.

(YEASTS)

(SERUM)

BYSTROVA, V.V.

Effect of some antibiotics on the course of aseptic inflammation.
Antibiotiki 7 no.1:52-56 Ja '62. (MIRA 15:2)

1. Laboratoriya fiziologii i farmakologii Leningradskogo nauchno-
issledovatel'skogo instituta antibiotikov i laboratoriya patomorfologii
infektsiy Instituta eksperimental'noy meditsiny AMN SSSR.
(ANTIBIOTICS) (INFLAMMATION)

LOGINOV, A.V.; DUMOVA, A.M.; BYSTROVA, V.V.; STREL'NIKOV, Yu.Ye.;
VOLYNSKAYA, S.L.

Pharmacological properties of soluble sodium salts of nystatin
used for inhalation. Antibiotiki 8 no.7:625-631 JI '63
(MIRA 17:3)

1. Laboratoriya fiziologii i farmakologii Leningradskogo in-
stituta antibiotikov.

BYSTROVA, V.V.; SILUYANOVA, N.A.; OVCHAROV, V.G.

Aerosol administration of the sodium salt of nystatin in the
treatment of pulmonary candidiasis in rats. Antibiotiki 8
no.3:261-267 Mr'63 (MIRA 17:4)

1. Leningradskiy nauchno-issledovatel'skiy institut anti-
biotikov.

ACCESSION NR: AP4034553

8/0020/64/155/005/1220/1223

AUTHOR: Baslavskaya, S. S.; Bystraya, Ye. I.

TITLE: The effect of light on the phosphorus metabolism of protococcal algae

SOURCE: AN SSSR. Doklady*, v. 155, no. 5, 1964, 1220-1223

TOPIC TAGS: light effect, phosphorus metabolism, protococcal algae, Scenedesmus obliquus, acid soluble phosphorus compound, acid insoluble phosphorus compound, polyphosphate, labeled phosphorus, phosphorus assimilation, photosynthesis, phospholipid, nucleoprotein, phosphoprotein, nucleic acid

ABSTRACT: This effect was explored in Scenedesmus obliquus and is based on earlier work by the first-mentioned author. Long exposure to light of these algae had resulted in a high content of acid-insoluble (trichloroacetic acid) compounds (85-90% of the total P) with a high percentage of polyphosphates. This fraction was isolated and studied in the present work by determining light-induced P^{32} absorption in the polyphosphates and the stable phosphorus (nucleoproteins, phosphoproteins, nucleic acids), and in some experiments in the phospholipids as well. Experimental laboratory methods of culture, isolation and counting are described.

Card

1/3

ACCESSION NR: AP4034553

One part of the algae was kept in the dark, another exposed to light. Both unlabeled and labeled P were applied. Uptake was determined after 10 and 60 minutes of light exposure. The results are tabulated and figured. Total P^{32} uptake occurred in darkness and light, much more so under light, by 9-37% after 10 min. exposure, and 39-71% after 60 min. exposure. More labeled than unlabeled P was assimilated. The highest P^{32} assimilation with longer light exposure was seen in the acid-insoluble compounds, with a relative decrease of that in soluble compounds. Changes in the former involved mainly the polyphosphate fraction which increased 50-250% under light, particularly after 60 min. when it attained 38-43% of total and 80-85%, and occasionally 100% of bound phosphorus. This activity was higher in the older cultures (24-29 days). Radioactivity of the phospholipids also increased under light, but reached only 5-10% of that of the polyphosphate. The stable P fraction contained a considerably lesser amount of P^{32} . After 60 min. light exposure this exceeded 1.5-3 fold that of plants kept in darkness. Literature data as well as the present experiments permit the assumption of a link between polyphosphate synthesis in plants and photosynthetic and respiratory processes. The work is being continued. Orig. art. has: 1 table and 2 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow)

Card

2/3

ACCESSION NR: AP4034553

State University)

SUBMITTED: 08Jul63

SUB CODE: LS

NO REF BOV: 002

ENCL: 00

OTHER: 007

Card 3/3

BYSTROVA, Ye. M.																									
PROCESSING AND PROPERTIES INDEX																									
<p>ca</p> <p>The causes and mechanism of an increased cation exchange in various soils after $\text{Ca}(\text{OH})_2$ treatment. A. Th. Tyulin and E. M. Bystrova. <i>Trans. 2nd Intern. Congr. Soil Sci., Leningrad 1950</i> 2, 45-107 (1953) (in English). A review and extended discussion of lab. expts. with various soils and artificial gels, from which it is concluded that increase in exchange capacity following $\text{Ca}(\text{OH})_2$ treatment is due principally to activation of "coagels" formed by the mutual pptn. of oppositely charged sols, e. g., negatively charged clay and positively charged $\text{Fe}(\text{OH})_3$. This passive gel can again acquire a neg. charge and upon $\text{Ca}(\text{OH})_2$ treatment Ca^{++} is adsorbed, to be released subsequently by exchange with other cations. Thirty-six references. C. J. Schollenberger</p>																									
<p>15</p>																									
<p>ALM-11.2 METALLURGICAL LITERATURE CLASSIFICATION</p>																									
<p>SECONDARY INDEX</p>																									

BYSTROVA, Ye. M.:

BYSTROVA, Ye. M.: "The clinical aspects and therapy of subacute-progressive forms of hematogenic-disseminated pulmonary-pharyngeal tuberculosis on the southern coast of the Crimea". Yalta, 1955. Crimean State Medical Inst imeni I. V. Stalin. (Dissertation for the Degree of Candidate of MEDICAL Sciences)

SO: Knizhnyaya Letopis' No. 51, 10 December 1955

ZAV'YALOV, K.D.; BURTSEV, P.N.; BYSTROVA, Ye.S.

Results of tests of hydrometric weights in mountain rivers. Trudy
GGI no.106:123-130 '63. (MIRA 16:8)
(Hydrometer—Testing)

BYSTROVA, Ye.S.

General accuracy of measuring water discharge with a flowmeter
in mountain rivers. Trudy GGI no.106:5-35 '63. (MIRA 16:8)
(Steam measurements)

BYSTROVA, Yu.A.

State of ocular accommodation in radiotherapy. Med.rad. 8
no.2:19-23 F'63 (MIRA 16:11)

1. Iz Tsentral'nogo nauchno-issledovatel'skogo instituta meditsinskoy radiologii Ministerstva zdravookhraneniya SSSR.

✱

BYSTROVA, Yu.A.

Reactions to radiation action and injuries of the eye during
radiotherapy of skin cancer of the face and eyelids. Med.rad.
no.6:17-22 '61. (MIRA 15:1)

1. Iz Tsentral'nogo nauchno-issledovatel'skogo instituta medi-
tsinskoy radiologii Ministerstva zdravookhraneniya SSSR.
(EYELIDS—CANCER) (FACE—CANCER) (RADIOTHERAPY)
(EYE—WOUNDS AND INJURIES)

SYCHEVA, Z.F.; BYSTROVA,, Z.A.

Effect of low soil temperature on the absorption of ash
elements and nitrogen by plants. Izv.Kar.i Kol'.fil.AN SSSR
no.4:68-75 '59. (MIRA 13:5)

1. Institut biologii Karel'skogo filiala AN SSSR.
(Plants--Assimilation)
(Soil temperature)

SYCHEVA, Z.F.; BYSTROVA, Z.A.

Effect of soil temperature on phosphorus assimilation by plants.
Trudy Kar. fil. AN SSSR no.28:31-39 '60. (MIRA 14:9)
(Plants, Effect of soil temperature on) (Plants--Assimilation)
(Phosphorus)

KOROVIN, A.I.; SYCHEVA, Z.F.; BYSTROVA, Z.A.

Effect of soil temperature on phosphorus assimilation by plants.
Dokl. AN SSSR ~~137~~ no. 2:458-461 Mr '61. (MIRA 14:1)

1. Institut biologii Karel'skogo filiala AN SSSR. Predstavleno
akademikom A.L. Kursanovna.

(PLANTS—ASSIMILATION) (PLANTS, EFFECT OF SOIL TEMPERATURE ON)
(PHOSPHORUS)

SYCHEVA, Z.F.; BYSTROVA, Z.A.

Effect of soil temperatures on the uptake of ash substances and
nitrogen by individual crops. Trudy Kar. fil. AN SSSR no.29:16-
21 '61. (MIRA 15:2)
(Soil temperature)(Nitrogen)(Plants--Assimilation)

KOROVIN, A.I.; SYCHEVA, Z.F.; BYSTROVA, Z.A.

Effect of soil temperature on the content of various forms of
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